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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,796	08/09/2006	Daisuke Kojima	060577	2792

23850 7590 08/04/2009

KRATZ, QUINTOS & HANSON, LLP
1420 K Street, N.W.
Suite 400
WASHINGTON, DC 20005

EXAMINER	
PAUL, JESSICA MARIE	

ART UNIT	PAPER NUMBER
1796	

MAIL DATE	DELIVERY MODE
08/04/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/588,796	KOJIMA ET AL.	
	Examiner	Art Unit	
	Jessica Paul	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/22/2009 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (US Serial No. 2004/0013972) in view of McGinniss et al. (US Serial No. 2002/0185633).

Regarding claims 4 and 6; McGinniss et al. teaches a composition for a low refractive index optical system (e.g. silica based optical waveguide system): selecting and reacting one or more monomers having a low index of refraction (n,1.5); selecting and reacting zero, one or more monomers having a high index of refraction (n≥1.5) [0029]. Monomers can be selected from Tables 1, 2, and 3 [0050]; examples include

acrylic acid, n-butyl acrylate [t1], and styrene [0052; t3]. McGinniss et al. discloses that after the polymers are synthesized, they can be dissolved in a solvent [0019].

McGinniss et al. fails to teach the composition comprising bisphenol-type epoxy resin or a novolac-type epoxy resin; preferably bisphenol A diglycidyl ether. Nishimura et al. teaches a radiation sensitive composition useful as an optical material, such as in optical waveguides [0221], comprising styrene or polyacrylic acid resins, and a bisphenol A epoxy resin as a stabilizer. Preferably, Nishimura et al. discloses bisphenol A diglycidyl ether, Epicoat 828 (Yuka Shell Epoxy Co., Ltd.) as a suitable example [0128, 0131-0132]. Nishimura et al. and McGinniss et al. are analogous art because they are both concerned with the same field of endeavor, namely optical materials, employed in optical waveguide systems, comprising acrylic and styrene base components. At the time of the invention, a person having ordinary skill in the art would have found it obvious to combine the sensitizer as taught by Nishimura et al., with the low refractive index composition, as taught by McGinniss et al. and would have been motivated to do so in order to stabilize the composition, which helps to prevent a change in the refractive index while under irradiation, as suggested by Nishimura et al. [0128].

McGinniss et al. fails to explicitly disclose the optical waveguide system comprising a lower cladding layer, a core, and a upper cladding layer. It is well known to one of ordinary skill in the art, that optical waveguides are generally composed of an upper cladding layer, a core, and a lower cladding layer. For instance, Nishimura et al. teaches an optical waveguide comprising a lower cladding layer, a core, and an upper

cladding layer, employing the radiation sensitive composition [0221-0228].]. Nishimura et al. and McGinniss et al. are combinable because they are both concerned with the same field of endeavor, namely optical materials, employed in optical waveguide systems, comprising acrylic and styrene base components. At the time of the invention, a person having ordinary skill in the art would have found it obvious to use the composition as taught by McGinniss et al., as a cladding layer or core of an optical waveguide, as disclosed by Nishimura et al. and would have been motivated to do so, in order to guide or confine light waves passing through the waveguide, as suggested by McGinniss et al. [0002-0004].

Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (US Serial No. 2004/0013972) in view of McGinniss et al. (US Serial No. 2002/0185633).

Regarding claims 5 and 7; McGinniss et al. teaches a composition for a low refractive index optical system (e.g. silica based optical waveguide system): selecting and reacting one or more monomers having a low index of refraction (n,1.5); selecting and reacting zero, one or more monomers having a high index of refraction (n≥1.5) [0029]. Monomers can be selected from Tables 1, 2, and 3 [0050]; examples include acrylic acid, n-butyl acrylate [t1], and styrene [0052; t3]. McGinniss et al. discloses that after the polymers are synthesized, they can be dissolved in a solvent [0019] and the composition is spin applied into thin dry films onto appropriate substrates [0248].

McGinniss et al. fails to teach the composition comprising bisphenol-type epoxy resin or a novolac-type epoxy resin; preferably bisphenol A diglycidyl ether. Nishimura et al. teaches a radiation sensitive composition useful as an optical material, comprising styrene or polyacrylic acid resins, and a bisphenol A epoxy resin as a stabilizer. Preferably, Nishimura et al. discloses bisphenol A diglycidyl ether, Epicoat 828 (Yuka Shell Epoxy Co., Ltd.) as a suitable example [0128, 0131-0132]. Nishimura et al. and McGinniss et al. are combinable because they are both concerned with the same field of endeavor, namely optical materials, employed in optical waveguide systems, comprising acrylic and styrene base components. At the time of the invention, a person having ordinary skill in the art would have found it obvious to combine the sensitizer as taught by Nishimura et al., with the low refractive index composition, as taught by McGinniss et al. and would have been motivated to do so in order to stabilize the composition, which helps to prevent a change in the refractive index while under irradiation, as suggested by Nishimura et al. [0128].

McGinniss et al. fails to explicitly disclose the optical waveguide system comprising a lower cladding layer, a core, and a upper cladding layer. It is well known to one of ordinary skill in the art, that optical waveguides are generally composed of an upper cladding layer, a core, and a lower cladding layer. For instance, Nishimura et al. teaches an optical waveguide comprising a lower cladding layer, a core, and an upper cladding layer, employing the radiation sensitive composition [0221-0228].]. Nishimura et al. and McGinniss et al. are combinable because they are both concerned with the same field of endeavor, namely optical materials, employed in optical waveguide

systems, comprising acrylic and styrene base components. At the time of the invention, a person having ordinary skill in the art would have found it obvious to use the composition as taught by McGinniss et al., as a cladding layer or core of an optical waveguide, as disclosed by Nishimura et al. and would have been motivated to do so, in order to guide or confine light waves passing through the waveguide, as suggested by McGinniss et al. [0002-0004].

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica Paul whose telephone number is (571)270-5453. The examiner can normally be reached on Monday thru Friday 8:00- 6:00p; alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

Jessica Paul
Examiner
Art Unit 1796

/JMP/